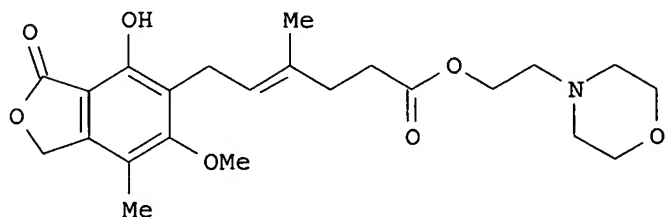
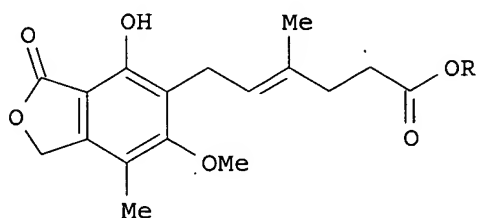


L7 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2005 ACS on STN  
ED Entered STN: 27 Aug 2004  
GI



I



II

*Appl.*

AB A process for making mycophenolate mofetil (I) comprising: conducting a catalytic transesterification by reacting a low-carbon alkyl ester of mycophenolic acid (II; R = Me, Et, Pr, Bu) with 2-morpholinoethanol [4-(2-hydroxyethyl)morpholine] to obtain a crude product of mycophenolate mofetil, which is then isolated and purified.

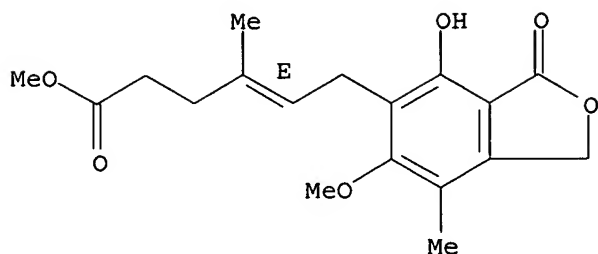
ACCESSION NUMBER: 2004:701805 HCAPLUS  
DOCUMENT NUMBER: 141:225522  
TITLE: Process for making mycophenolate mofetil by transesterification.  
INVENTOR(S): Lee, Kwang-chung; Lin, Shu-chuan; Chiu, Ray-hwa  
PATENT ASSIGNEE(S): Taiwan  
SOURCE: U.S. Pat. Appl. Publ., 3 pp.  
CODEN: USXXCO  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004167130	A1	20040826	US 2003-750466	20031229
TW 221414	B1	20041001	TW 2003-92103728	20030221
PRIORITY APPLN. INFO.:			TW 2003-92103728	A 20030221

OTHER SOURCE(S): CASREACT 141:225522; MARPAT 141:225522

IT 31858-66-9, Methyl mycophenolate 32483-51-5, Ethyl mycophenolate 40336-78-5 745067-13-4  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(process for preparation of mycophenolate mofetil by transesterification of mycophenolic acid esters with morpholinoethanol)  
RN 31858-66-9 HCAPLUS  
CN 4-Hexenoic acid, 6-(1,3-dihydro-4-hydroxy-6-methoxy-7-methyl-3-oxo-5-isobenzofuran-4-yl)-4-methyl-, methyl ester, (4E)- (9CI) (CA INDEX NAME)

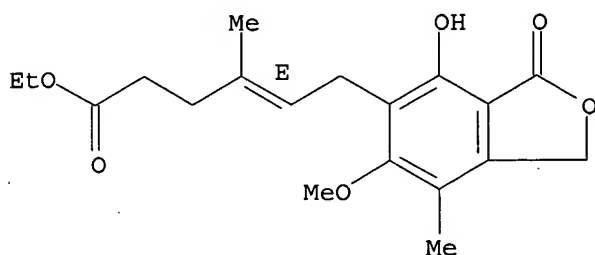
Double bond geometry as shown.



RN 32483-51-5 HCAPLUS

CN 4-Hexenoic acid, 6-(1,3-dihydro-4-hydroxy-6-methoxy-7-methyl-3-oxo-5-isobenzofuran-1-yl)-4-methyl-, ethyl ester, (4E)- (9CI) (CA INDEX NAME)

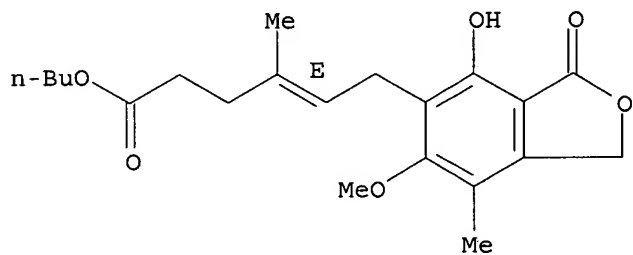
Double bond geometry as shown.



RN 40336-78-5 HCAPLUS

CN 4-Hexenoic acid, 6-(1,3-dihydro-4-hydroxy-6-methoxy-7-methyl-3-oxo-5-isobenzofuran-1-yl)-4-methyl-, butyl ester, (4E)- (9CI) (CA INDEX NAME)

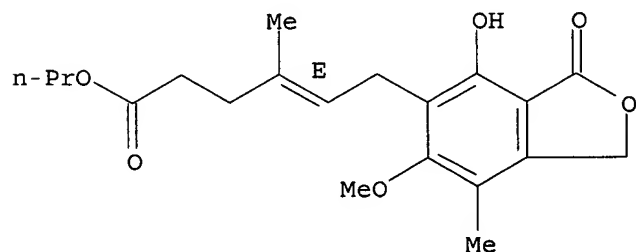
Double bond geometry as shown.



RN 745067-13-4 HCAPLUS

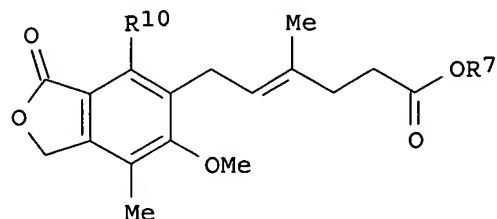
CN 4-Hexenoic acid, 6-(1,3-dihydro-4-hydroxy-6-methoxy-7-methyl-3-oxo-5-isobenzofuran-1-yl)-4-methyl-, propyl ester, (4E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.





L7 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ED Entered STN: 15 Feb 1995  
 GI



I

AB The disclosed derivs. of mycophenolic acid I (R7 = lower alkyl; R10 = OSO2CF3, CN, CO2H, NCO) are therapeutic agents (no data) advantageous in the treatment of disease states indicated for mycophenolic acid and/or mycophenolate mofetil and other immunosuppressant agents. Pharmaceutical formulations were given.

ACCESSION NUMBER: 1995:354681 HCAPLUS  
 DOCUMENT NUMBER: 122:265175  
 TITLE: Derivatives of mycophenolic acid  
 INVENTOR(S): Sjogren, Eric B.  
 PATENT ASSIGNEE(S): Syntex (U.S.A.) Inc., USA  
 SOURCE: U.S., 31 pp.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5380879	A	19950110	US 1994-198817	19940218
US 5441953	A	19950815	US 1994-311666	19940923
CA 2183529	AA	19950824	CA 1995-2183529	19950216
WO 9522535	A1	19950824	WO 1995-US1784	19950216
W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, UG				
RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9519169	A1	19950904	AU 1995-19169	19950216
ZA 9501292	A	19960816	ZA 1995-1292	19950216
EP 745074	A1	19961204	EP 1995-911697	19950216
EP 745074	B1	20020102		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
CN 1143366	A	19970219	CN 1995-191656	19950216
BR 9506820	A	19970909	BR 1995-6820	19950216
JP 09509171	T2	19970916	JP 1995-521865	19950216
IL 112664	A1	19990620	IL 1995-112664	19950216
AT 211467	E	20020115	AT 1995-911697	19950216
PT 745074	T	20020628	PT 1995-911697	19950216
ES 2170141	T3	20020801	ES 1995-911697	19950216
FI 9603219	A	19961011	FI 1996-3219	19960816
PRIORITY APPLN. INFO.:			US 1994-198817	A3 19940218
			WO 1995-US1784	W 19950216
OTHER SOURCE(S):		MARPAT 122:265175		

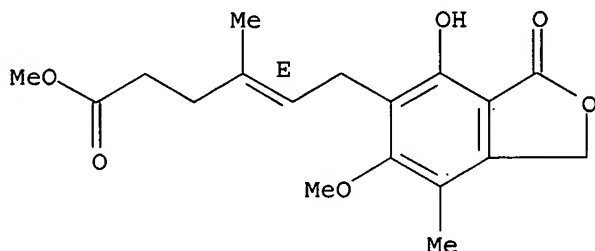
IT 31858-66-9P 162638-64-4P 162638-65-5P  
162638-67-7P 162638-68-8P 162638-82-6P  
162638-84-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(mycophenolic acid derivs.)

RN 31858-66-9 HCAPLUS

CN 4-Hexenoic acid, 6-(1,3-dihydro-4-hydroxy-6-methoxy-7-methyl-3-oxo-5-isobenzofuranyl)-4-methyl-, methyl ester, (4E)- (9CI) (CA INDEX NAME)

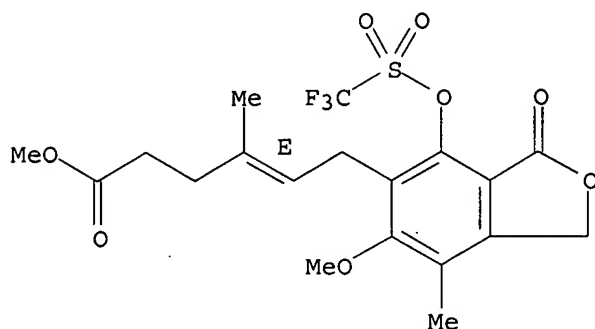
Double bond geometry as shown.



RN 162638-64-4 HCAPLUS

CN 4-Hexenoic acid, 6-[1,3-dihydro-6-methoxy-7-methyl-3-oxo-4-[[trifluoromethyl)sulfonyl]oxy]-5-isobenzofuranyl]-4-methyl-, methyl ester, (E)- (9CI) (CA INDEX NAME)

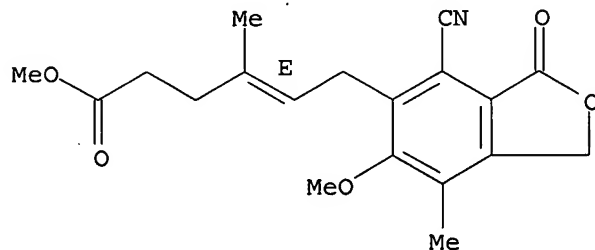
Double bond geometry as shown.



RN 162638-65-5 HCAPLUS

CN 4-Hexenoic acid, 6-(4-cyano-1,3-dihydro-6-methoxy-7-methyl-3-oxo-5-isobenzofuranyl)-4-methyl-, methyl ester, (E)- (9CI) (CA INDEX NAME)

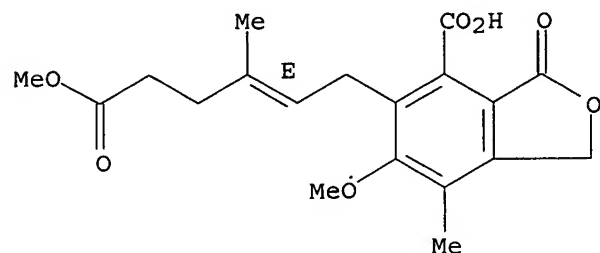
Double bond geometry as shown.



RN 162638-67-7 HCAPLUS

CN 4-Isobenzofurancarboxylic acid, 1,3-dihydro-6-methoxy-5-(6-methoxy-3-methyl-6-oxo-2-hexenyl)-7-methyl-3-oxo-, (E)- (9CI) (CA INDEX NAME)

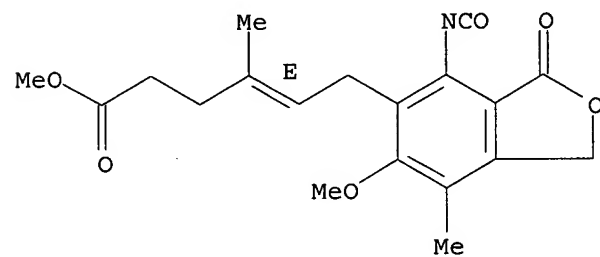
Double bond geometry as shown.



RN 162638-68-8 HCAPLUS

CN 4-Hexenoic acid, 6-(1,3-dihydro-4-isocyanato-6-methoxy-7-methyl-3-oxo-5-isobenzofuranyl)-4-methyl-, methyl ester, (E)- (9CI) (CA INDEX NAME)

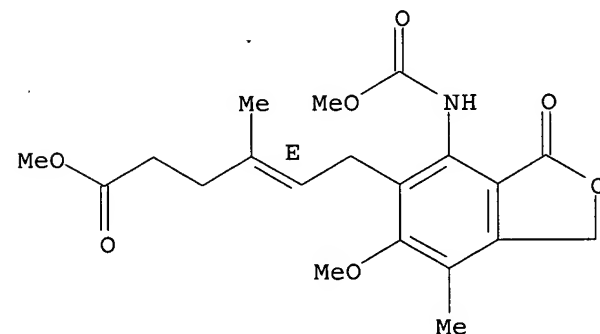
Double bond geometry as shown.



RN 162638-82-6 HCAPLUS

CN 4-Hexenoic acid, 6-[1,3-dihydro-6-methoxy-4-[(methoxycarbonyl)amino]-7-methyl-3-oxo-5-isobenzofuranyl]-4-methyl-, methyl ester, (E)- (9CI) (CA INDEX NAME)

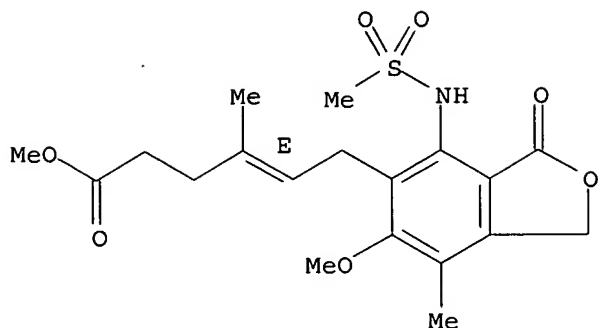
Double bond geometry as shown.



RN 162638-84-8 HCAPLUS

CN 4-Hexenoic acid, 6-[1,3-dihydro-6-methoxy-7-methyl-4-[(methylsulfonyl)amino]-3-oxo-5-isobenzofuranyl]-4-methyl-, methyl ester, (E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



IT 162638-70-2P 162638-72-4P 162638-74-6P  
162638-79-1P

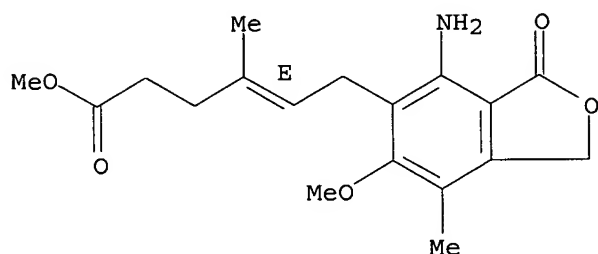
RL: RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use);  
BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent);  
USES (Uses)

(mycophenolic acid derivs.)

RN 162638-70-2 HCAPLUS

CN 4-Hexenoic acid, 6-(4-amino-1,3-dihydro-6-methoxy-7-methyl-3-oxo-5-isobenzofuranyl)-4-methyl-, methyl ester, (E)- (9CI) (CA INDEX NAME)

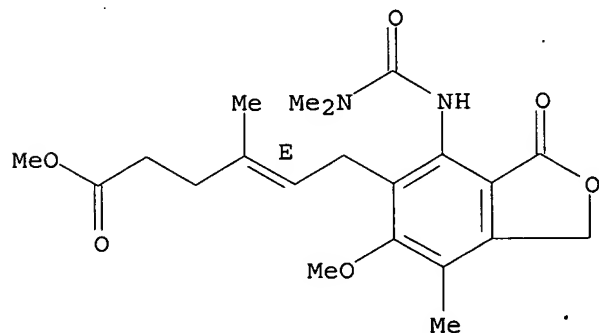
Double bond geometry as shown.



RN 162638-72-4 HCAPLUS

CN 4-Hexenoic acid, 6-[4-[[[(dimethylamino)carbonyl]amino]-1,3-dihydro-6-methoxy-7-methyl-3-oxo-5-isobenzofuranyl]]-4-methyl-, methyl ester, (E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

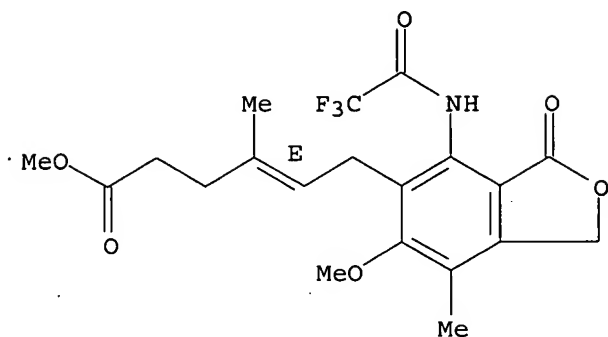


RN 162638-74-6 HCAPLUS

CN 4-Hexenoic acid, 6-[1,3-dihydro-6-methoxy-7-methyl-3-oxo-4-[(trifluoroacetyl)amino]-5-isobenzofuranyl]-4-methyl-, methyl ester, (E)-

(9CI) (CA INDEX NAME)

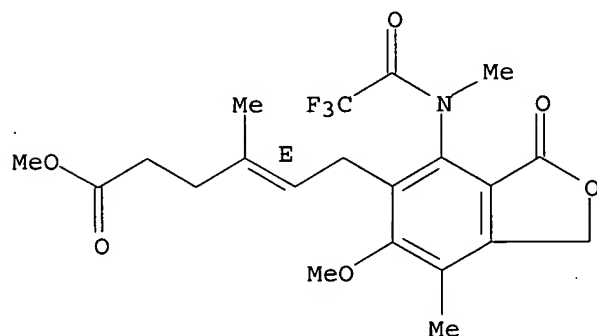
Double bond geometry as shown.



RN 162638-79-1 HCAPLUS

CN 4-Hexenoic acid, 6-[1,3-dihydro-6-methoxy-7-methyl-4-[methyl(trifluoroacetyl)amino]-3-oxo-5-isobenzofuranyl]-4-methyl-, methyl ester, (E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



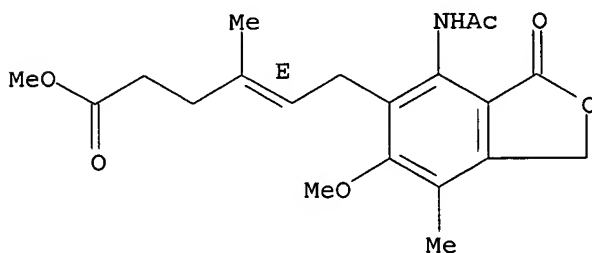
IT 162638-75-7P 162638-76-8P

RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(mycophenolic acid derivs.)

RN 162638-75-7 HCAPLUS

CN 4-Hexenoic acid, 6-[4-(acetylamino)-1,3-dihydro-6-methoxy-7-methyl-3-oxo-5-isobenzofuranyl]-4-methyl-, methyl ester, (E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



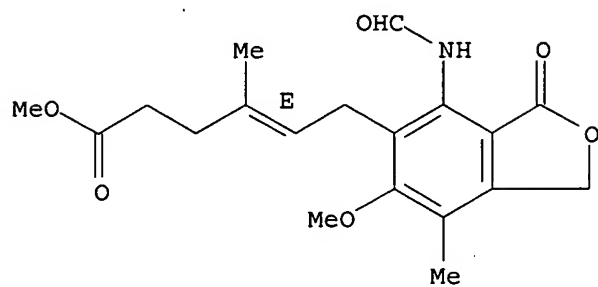
RN 162638-76-8 HCAPLUS

CN 4-Hexenoic acid, 6-[4-(formylamino)-1,3-dihydro-6-methoxy-7-methyl-3-oxo-5-



isobenzofuranyl]-4-methyl-, methyl ester, (E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



=> d his

(FILE 'HOME' ENTERED AT 15:42:30 ON 02 NOV 2005)

FILE 'REGISTRY' ENTERED AT 15:42:58 ON 02 NOV 2005

L1 STRUCTURE UPLOADED

L2 17 S L1

L3 274 S L1 FULL

L4 0 S L3 AND CATALYST

FILE 'HCAPLUS' ENTERED AT 15:46:21 ON 02 NOV 2005

L5 107 S 2-MORPHOLINOETHANOL

L6 82 S L3

L7 2 S L5 AND L6

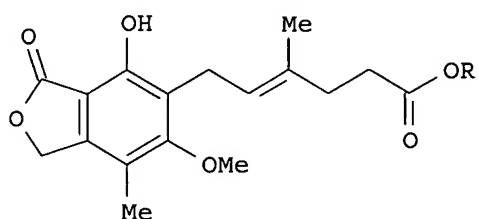
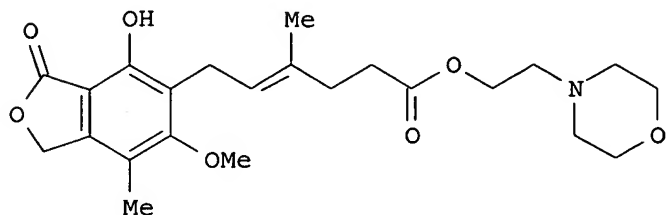
=> s l6 and catalyst

704166 CATALYST

L8 3 L6 AND CATALYST

=> d ed abs ibib hitstr 1-3

L8 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2005 ACS on STN  
ED Entered STN: 27 Aug 2004  
GI



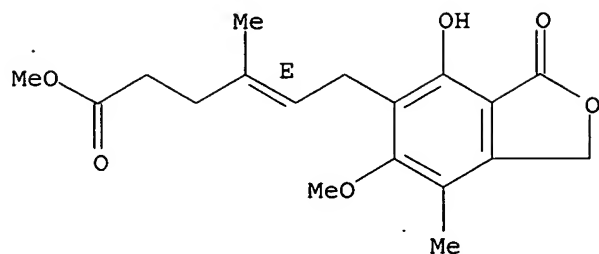
AB A process for making mycophenolate mofetil (I) comprising: conducting a catalytic transesterification by reacting a low-carbon alkyl ester of mycophenolic acid (II; R = Me, Et, Pr, Bu) with 2-morpholinoethanol [4-(2-hydroxyethyl)morpholine] to obtain a crude product of mycophenolate mofetil, which is then isolated and purified.

ACCESSION NUMBER: 2004:701805 HCAPLUS  
DOCUMENT NUMBER: 141:225522  
TITLE: Process for making mycophenolate mofetil by transesterification  
INVENTOR(S): Lee, Kwang-chung; Lin, Shu-chuan; Chiu, Ray-hwa  
PATENT ASSIGNEE(S): Taiwan  
SOURCE: U.S. Pat. Appl. Publ., 3 pp.  
CODEN: USXXCO  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004167130	A1	20040826	US 2003-750466	20031229
TW 221414	B1	20041001	TW 2003-92103728	20030221
PRIORITY APPLN. INFO.:			TW 2003-92103728	A 20030221

OTHER SOURCE(S): CASREACT 141:225522; MARPAT 141:225522  
IT 31858-66-9, Methyl mycophenolate 32483-51-5, Ethyl mycophenolate 40336-78-5 745067-13-4  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(process for preparation of mycophenolate mofetil by transesterification of mycophenolic acid esters with morpholinoethanol)  
RN 31858-66-9 HCAPLUS  
CN 4-Hexenoic acid, 6-(1,3-dihydro-4-hydroxy-6-methoxy-7-methyl-3-oxo-5-isobenzofuranyl)-4-methyl-, methyl ester, (4E)- (9CI) (CA INDEX NAME)

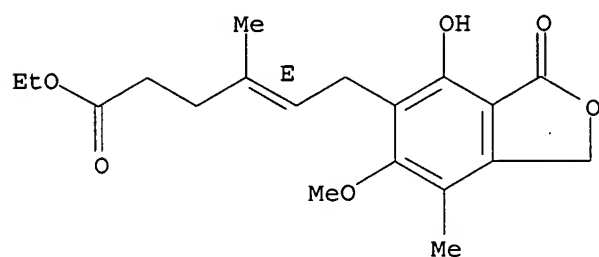
Double bond geometry as shown.



RN 32483-51-5 HCAPLUS

CN 4-Hexenoic acid, 6-(1,3-dihydro-4-hydroxy-6-methoxy-7-methyl-3-oxo-5-isobenzofuranyl)-4-methyl-, ethyl ester, (4E)- (9CI) (CA INDEX NAME)

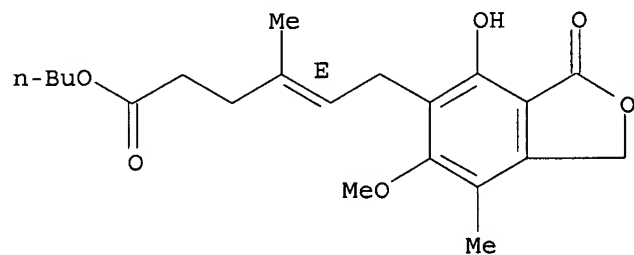
Double bond geometry as shown.



RN 40336-78-5 HCAPLUS

CN 4-Hexenoic acid, 6-(1,3-dihydro-4-hydroxy-6-methoxy-7-methyl-3-oxo-5-isobenzofuranyl)-4-methyl-, butyl ester, (4E)- (9CI) (CA INDEX NAME)

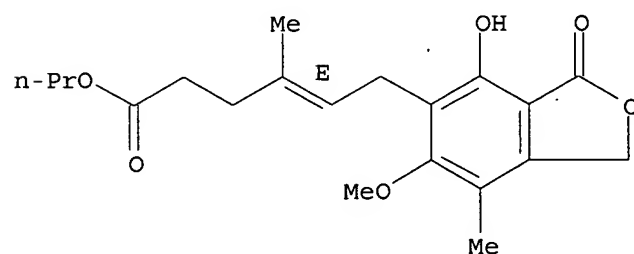
Double bond geometry as shown.



RN 745067-13-4 HCAPLUS

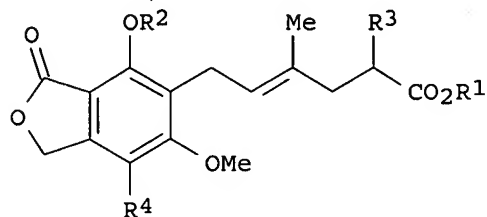
CN 4-Hexenoic acid, 6-(1,3-dihydro-4-hydroxy-6-methoxy-7-methyl-3-oxo-5-isobenzofuranyl)-4-methyl-, propyl ester, (4E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.





L8 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ED Entered STN: 28 Aug 2001  
 GI



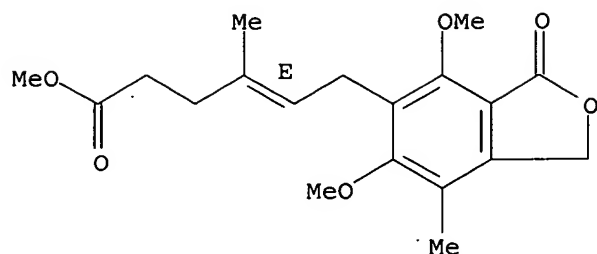
I

A (Cst.)

AB Syntheses of mycophenolic acid (MPA) I ( $R_1 = R_2 = R_3 = H$ ,  $R_4 = Me$ ) (II) and its analogs were carried out using palladium-catalyzed Heck carbonylation and olefination. Thus, the reaction of 2-bromo-3,5-dimethoxybenzyl alc. in toluene under carbon monoxide at 180°C in the presence of palladium catalyst using sodium carbonate as a base gave 5,7-dimethoxyphthalide in 88% yield. The phthalide was then converted to 6-iodo-5,7-dimethoxy-4-methylphthalide. Reaction of this aromatic iodide with isoprene and di-Me malonate in the presence of palladium(0) catalyst gave the three component coupling product I ( $R_1 = R_2 = Me$ ,  $R_3 = CO_2Me$ ,  $R_4 = Me$ ), which was converted into II in three steps. 4-NorMPA I ( $R_1 = R_2 = R_3 = R_4 = H$ ) and 4-homo-MPA I ( $R_1 = R_2 = R_3 = H$ ,  $R_4 = Et$ ) were synthesized similarly.

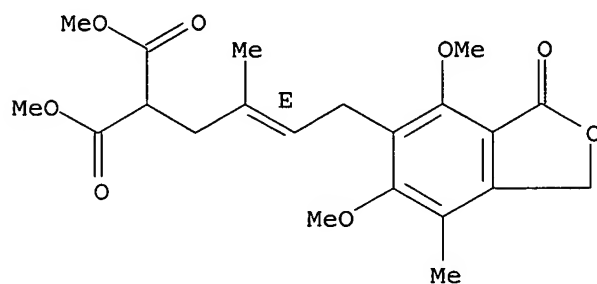
ACCESSION NUMBER: 2001:620584 HCAPLUS  
 DOCUMENT NUMBER: 135:331285  
 TITLE: Syntheses of mycophenolic acid and its analogs by palladium methodology  
 AUTHOR(S): Lee, Youngmin; Fujiwara, Yasunari; Ujita, Katsuji; Nagatomo, Miki; Ohta, Hiroshi; Shimizu, Isao  
 CORPORATE SOURCE: Department of Applied Chemistry, Waseda University, Tokyo, 169-8555, Japan  
 SOURCE: Bulletin of the Chemical Society of Japan (2001), 74(8), 1437-1443  
 CODEN: BCSJA8; ISSN: 0009-2673  
 PUBLISHER: Chemical Society of Japan  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 135:331285  
 IT 60435-90-7P 308272-03-9P 370573-32-3P  
 370573-34-5P 370573-42-5P 370573-44-7P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (synthesis of mycophenolic acid and analogs via palladium-catalyzed coupling of malonate and isoprene with iodophthalide derivs.)  
 RN 60435-90-7 HCAPLUS  
 CN 4-Hexenoic acid, 6-(1,3-dihydro-4,6-dimethoxy-7-methyl-3-oxo-5-isobenzofuranyl)-4-methyl-, methyl ester, (4E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



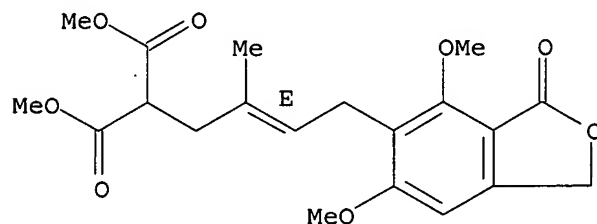
RN 308272-03-9 HCAPLUS  
CN Propanedioic acid, [(2E)-4-(1,3-dihydro-4,6-dimethoxy-7-methyl-3-oxo-5-isobenzofuranyl)-2-methyl-2-butenyl]-, dimethyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.



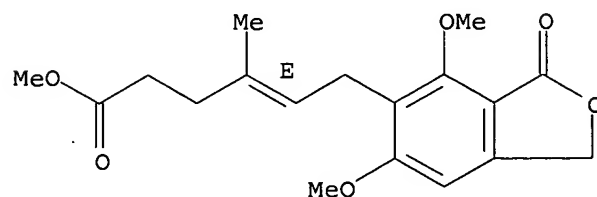
RN 370573-32-3 HCAPLUS  
CN Propanedioic acid, [(2E)-4-(1,3-dihydro-4,6-dimethoxy-3-oxo-5-isobenzofuranyl)-2-methyl-2-butenyl]-, dimethyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 370573-34-5 HCAPLUS  
CN 4-Hexenoic acid, 6-(1,3-dihydro-4,6-dimethoxy-3-oxo-5-isobenzofuranyl)-4-methyl-, methyl ester, (4E)- (9CI) (CA INDEX NAME)

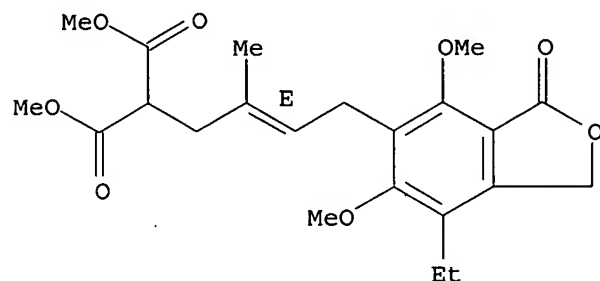
Double bond geometry as shown.



RN 370573-42-5 HCAPLUS

CN Propanedioic acid, [(2E)-4-(7-ethyl-1,3-dihydro-4,6-dimethoxy-3-oxo-5-isobenzofuranyl)-2-methyl-2-butenyl]-, dimethyl ester (9CI) (CA INDEX NAME)

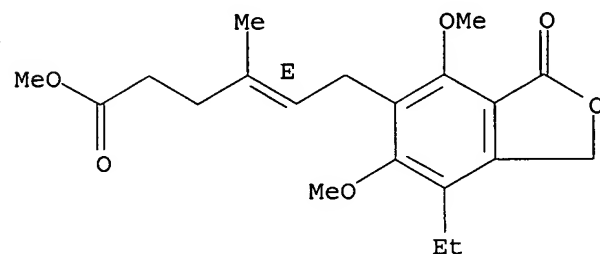
Double bond geometry as shown.



RN 370573-44-7 HCAPLUS

CN 4-Hexenoic acid, 6-(7-ethyl-1,3-dihydro-4,6-dimethoxy-3-oxo-5-isobenzofuranyl)-4-methyl-, methyl ester, (4E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



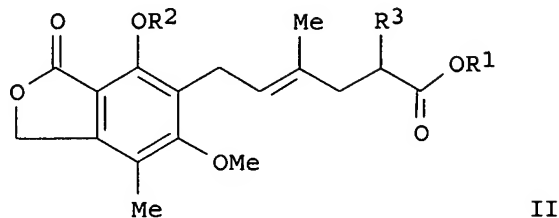
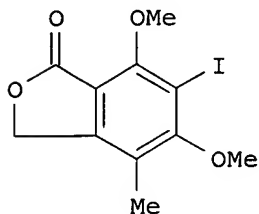
REFERENCE COUNT:

24

THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT



L8 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2005 ACS on STN  
ED Entered STN: 05 Oct 2000  
GI

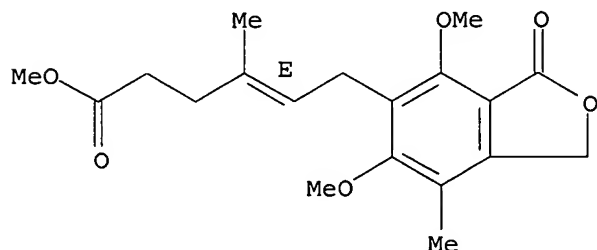


AB Reaction of aromatic iodide (I) with isoprene and di-Me malonate in the presence of palladium(0) catalyst gave the coupling product [II; R1R2 = Me, R3 = CO2Me (III)] which was converted into mycophenolic acid II [R1-R3 = H, (IV)] in three steps.

ACCESSION NUMBER: 2000:700736 HCAPLUS  
DOCUMENT NUMBER: 134:4794  
TITLE: Synthesis of mycophenolic acid by palladium-catalyzed three component coupling reaction  
AUTHOR(S): Shimizu, Isao; Lee, Youngmin; Fujiwara, Yasunari  
CORPORATE SOURCE: Department of Applied Chemistry, Waseda University, Tokyo, 169-8555, Japan  
SOURCE: Synlett (2000), (9), 1285-1286  
CODEN: SYNLES; ISSN: 0936-5214  
PUBLISHER: Georg Thieme Verlag  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
OTHER SOURCE(S): CASREACT 134:4794

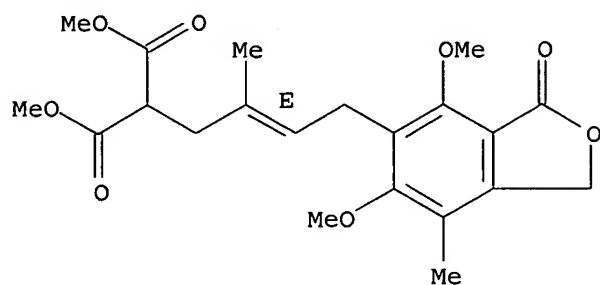
IT 60435-90-7P 308272-03-9P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation of mycophenolic acid by palladium-catalyzed three component coupling reaction)  
RN 60435-90-7 HCAPLUS  
CN 4-Hexenoic acid, 6-[(1,3-dihydro-4,6-dimethoxy-7-methyl-3-oxo-5-isobenzofuranyl)-4-methyl-, methyl ester, (4E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 308272-03-9 HCAPLUS  
CN Propanedioic acid, [(2E)-4-(1,3-dihydro-4,6-dimethoxy-7-methyl-3-oxo-5-isobenzofuranyl)-2-methyl-2-butenyl]-, dimethyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.



REFERENCE COUNT:

13

THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

Ngrazier 10750466amend2

=> log y

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

34.50

202.79

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

ENTRY

SESSION

CA SUBSCRIBER PRICE

-3.65

-3.65

STN INTERNATIONAL LOGOFF AT 15:48:30 ON 02 NOV 2005